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Safety Awareness for responders to Emergency Operations: Ship Breaking

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Overview

- Introduction
- Ship Breaking Hazards
- Protective Measures

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Objectives of this training - At the end of this short session, you should be able to:

1. Identify the hazards
2. Explain how to protect yourself from these hazards
3. Increase safety and health awareness

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Hazard: Ship Breaking

A major issue for environmental and human health reasons

- Human Health
  - **Asbestos, Lead**
  - **Fire and Explosions**
  - **Struck By**
  - **Falls**
- Environment
  - **Soil Contamination**
  - **Marine Pollution**

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General Hazards

- Causing serious harm
- Hazardous substances
- Physical and mechanical hazards
- Biological hazards
- Ergonomic and psychosocial
- General concerns

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Hazard: Asbestos

Asbestos exposure (permissible exposure limits, exposure assessments and monitoring, respiratory protection, communication of hazard to employees, methods of compliance, protective clothing, hygiene facilities and practices, medical surveillance, training for workers and supervisors, housekeeping and recordkeeping).

- Asbestos hanger liners.
- Asbestos mastic under insulation.
- Asbestos cloth over insulation.
- Asbestos in cable.
- Asbestos lagging and insulation on pipes and hull.
- Asbestos adhesive.
- Asbestos gaskets on piping connections.
- Asbestos valve packing.

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Hazard: PCBs

Polychlorinated biphenyls (PCBs) exposure (exposure limits, inhalation and dermal protection, training of workers and supervisors).

- PCBs in rubber products such as hoses.
- PCBs in plastic foam insulation.
- PCBs in cables.
- PCBs in silver paint.
- PCBs in habitability paint.
- PCBs in felt under septum plates (plates on top of hull bottom).
- PCBs in primary paint on hull steel.

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Hazard: Lead

Lead exposure (e.g., burning through lead-coated surfaces, permissible exposure limits, exposure assessments and monitoring, respiratory protection, protective clothing, hygiene facilities and practices, medical surveillance, and training for workers and supervisors).

- Lead/Chromate paint.
- Lead ballast.
- Batteries.
- Generators.
- Motor components.

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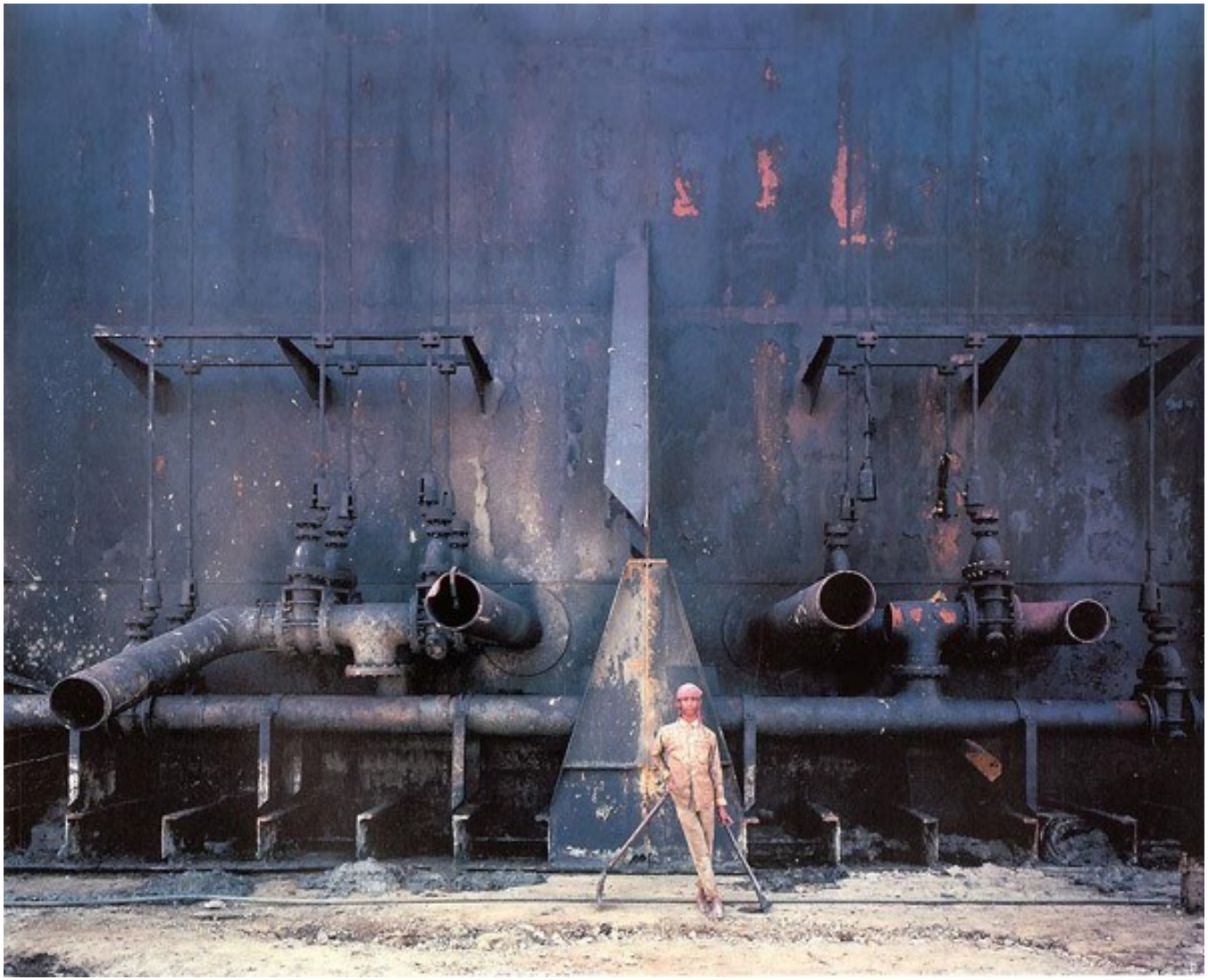

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Hazard: Confined Space

Confined, enclosed and other dangerous atmospheres, space entry.

- Test Atmosphere for:
  - Oxygen
  - Lower Explosive limit
  - Toxins
- Emergency response, rescue, and first aid.

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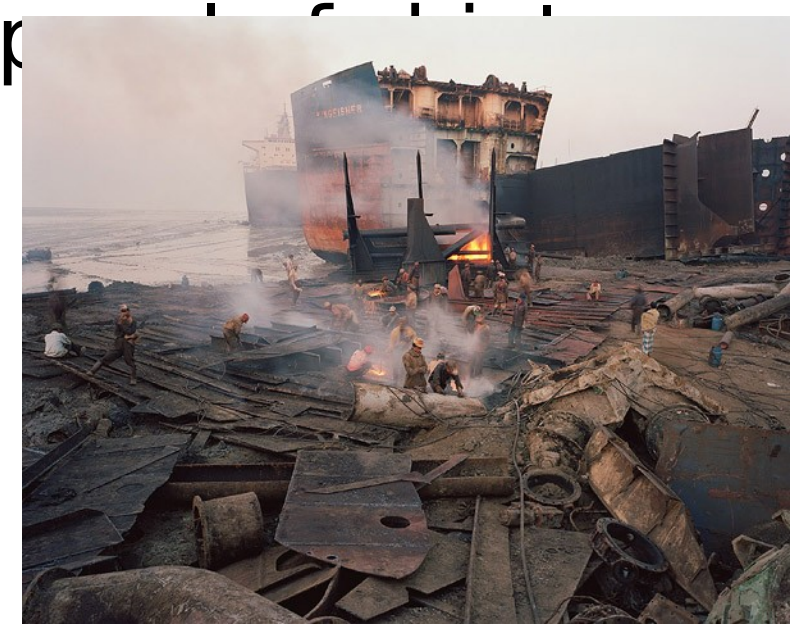
Hazard: Metal cutting and disposal processes

- Cutting and welding, compressed gas.
- Removal and disp
  machinery
- Fire prevention



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Toxic Gases

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Hazard: hazardous materials and chemicals

- RCRA heavy metals (e.g., ship transducers, ballast, paint coatings).
- Mercury (e.g., fluorescent light tubes, thermometers, electrical switches, light fittings, fire detectors, tank level indicators).
- CFCs (e.g., self-contained refrigeration devices, including watercoolers and small freezer units).
- Oil/fuel removal and tank cleaning
- Bilge and ballast water removal

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Pollution of Soil and Water

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Hazard: Material Handling

- Cranes, gear and equipment for material handling.
- Powered industrial truck operations

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Hazard: Falls

- Guarding of deck openings/edges and fall protection.
- Scaffolds, ladders and working surfaces.

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Hazard: Noise

- Hearing conservation (i.e., noise exposure).
- Wear Hearing Protection

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Operational planning for safer shipbreaking

- Safe ship-breaking plans and schedules
- Hazard identification and risk assessment
- Review of risk assessment
- Response to hazards and risks

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General measures

- Access and egress
- Roads, quays, yards
- Scaffolds and ladders
- Precautions against falling
- Fire prevention, fire fighting
- Confined spaces
- Signs, notices, colour codes

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Competence and training for

- Managers/supervisors
- Workers
- Contractors

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PPE and clothing

- Head, face, eye, hand, foot
- Respiratory equipment
- Hearing
- Radioactive contamination
- Protection from falls

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Contingency and emergency preparedness

- General
- First aid
- Rescue

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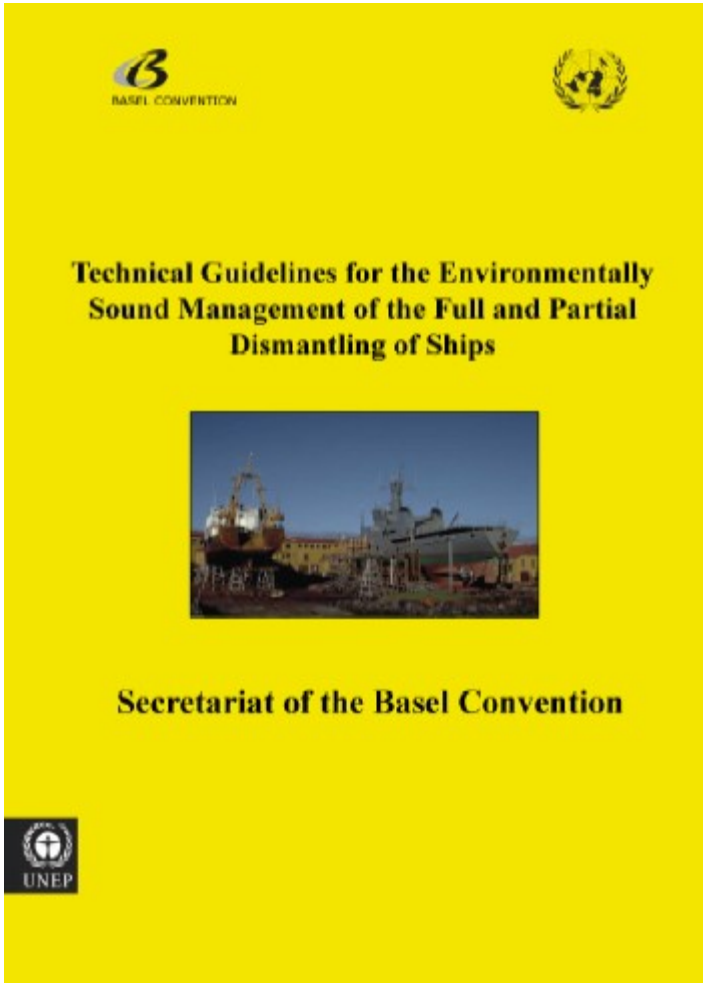
International guidelines on “best practice”


BASEL CONVENTION
Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships
Secretariat of the Basel Convention
UNEP